DOCUMENT RESUME

ED 204 558 CE 029 481

AUTHOR	Dawson-Saunders, Beth; And Others
TITLE	Issues in Health Occupations in Illinois: Recommendations by Employers and Educators.
INSTITUTION	Southern Illinois Univ., Carbondale. School of Medicine.
SPONS AGENCY	Illinois State Office of Education, Springfield. Div. of Adult Vocational and Technical Education.
PUB DATE	Jun 81
NOTE	53p.; For a related document see ED 199 508.
AVAILABLE FROM	Research and Development Section, E-426, Illinois State Board of Education, 100 North First, Springfield, IL 62777 (One copy free).
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Allied Health Occupations; *Allied Health Occupations Education; Communication (Thought Transfer); Continuing Education; *Educational Needs; *Educational Planning; Educational Research; *Employer Attitudes; Employer Employee Relationship; *Health Occupations; Institutional Cooperation; Interprofessional Relationship; Postsecondary Education; Regional Programs; Specialization; Statewide Planning
IDENTIFIERS	Illinois

ABSTRACT

This paper presents the results of a study designed to meet the goal of assisting health occupations education planners to provide education relevant to the needs of students and employers. The objectives of the study were (1) to determine and clarify major issues and concerns of Illinois health care employers; (2) to determine, with the input of health occupations educators, how educators can address these problems; and (3) to make recommendations, based on educator input, for ways to alleviate employer concerns. Five issues (communication between educational and service institutions; understanding among allied health personnel, nurses, and health practitioners; overspecialization; regional programs; and continuing education) are discussed from the viewpoint of employers; suggestions from educators are reported and, finally, recommendations based on the previous suggestions are provided. (KC)

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Issues in Health Occupations in Illinois: Recommendations by Employers and Educators

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Product Abstract

1. Title of material: Issues in Health Occupations in Illinois: Recommendations by Employers and Educators

2. Date material was completed: June, 1981

3. Please check one: New material __X__ Revised material ____

4. Originating agency: Southern Illinois University School of Medicine
   Address: P.O. Box 3926 - Springfield, Illinois Zip Code: 62708

5. Name(s) of developer(s): Dr. Beth Dawson-Saunders, Virginia McMillan, Sarah H. Ross
   Address: S.I.U. School of Medicine, Springfield, Illinois Zip Code: 62708

6. Developed pursuant to Contract Number: R-31-31-D-0513-258

7. Subject Matter (Check only one according to USOE Code):

   USOE Code

   ____ 01 Agricultural Education
   ____ 03 Business and Office Education
   ____ 04 Distributive Education
   __X__ 07 Health Occupations Education
   ____ 09 Home Economics Education
   ____ 10 Industrial Art Education
   ____ 16 Technical Education
   ____ 17 Trade and Industrial Education
   ____ 22 Cooperative Education
   ____ Career Education
   ____ Other (Specify) _____

8. Education Level:

   ____ Pre-K Thru 6 ____ 7-8 ____ 9-10 ____ 11-12
   ____ Post-Secondary ____ Adult __X__ Teacher (Pre-service)
   __X__ Administrator (Pre-Service) ____ Other (Specify) _____

9. Intended for Use By:

   ____ Student ____ Classroom Teacher __X__ Local Administrator
   __X__ Teacher Educator ____ Guidance Staff __X__ State Personnel
   ____ Other (Specify) _____

10. Student Type:

    ____ Regular ____ Disadvantaged ____ Handicapped
    ____ Limited English Proficiency ____ Other (Specify) _____

11. Medium and Format of Materials:

__X__ HARDCOPY	___ VIDEOTAPE	___ FILM	___ MICROFICHE
No. of pages 60	_____ Minutes	_____ Minutes	___ B & W
__X__ Paper bound	___ B & W	___ B & W	___ Color
___ Hard bond	___ Color	___ Color	
___ Loose-leaf	_____ inches	_____ mm	
Photos: Yes _____	No __X__		
Diagrams: Yes _____	No __X__		

___ SLIDES	___ FILM STRIPS	___ AUDIO	___ OTHER
No. of frames _____	No. of frames _____	___ Automatic synch	Specify:
___ B & W	___ B & W	___ _____ Hz	_____
___ Color	___ Color	___ Manual cue	_____
___ Audio	___ Audio	___ Reel	_____
___ Carousel provided		___ Cassette	
___ Other packaging used (Specify) _____		___ Cartridge	

12. Availability:

X One copy free — For sale @ $ _____ per copy — _____ Not available

_____ In ERIC system (No. _____) — _____ Loan copy available

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16. General Description (State the general objective and suggested method of use. Summarize the content and tell how it is organized. Continue on back of this sheet or on another sheet, if necessary.): This report presents the results of a study of issues in health occupations in Illinois. Five issues, (communication between educational and service institutions; understanding among allied health personnel, nurses and health practitioners; overspecialization; regional programs; and continuing education) are discussed from the viewpoint of employers, suggestions from educators are reported and, finally, recommendations based on the previous suggestions are provided.

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Section 1

INTRODUCTION

One of the goals of vocational education is to "increase vocational education opportunities which are suited to the needs, interests and abilities of individuals and realistic in employment demands"(1). Meeting this goal in the field of health occupations probably is more difficult than in most vocational areas because of the complexity involved. The task of assessing needs and planning appropriate educational programs is complicated by the large number of diverse yet interrelated health occupations which require varying durations of training. Entry-level training in some of these occupations is only a few weeks, while others take several years. In several closely-related occupations, the baccalaureate level must be obtained prior to entry into the field. Still another consideration is that there are numerous types of employment settings for which employment demands must be determined.

This paper presents the results of a study designed to meet the goal of assisting health occupations education planners in providing education relevant to the needs of students and employers. The objectives of the study were: to determine and clarify major issues and concerns of Illinois health care employers; to determine, with the input of health occupations educators, how educators can address these problems; and finally, to make recommendations, based on the educator input, for ways to alleviate employer concerns.

History of the Study

In the spring of 1979, the Illinois State Board of Education through its Department of Adult, Vocational and Technical Education, Research and Development Section, awarded a finding agreement to Southern Illinois University School of Medicine for a comprehensive study of allied health occupations in Illinois. The study, Health Occupations Education Planning Project, was completed in June, 1981. In the first phase of the study information was collected on a statewide and regional basis for 92 health occupations. (These occupations are listed in Attachment A.) Topics examined in the study included job definitions, educational requirements, credentialing requirements, training programs, salary ranges, and job availability. These data were collected through the examination of existing resources and by a comprehensive survey of thirteen types of health care employment

settings. (The types of employment settings used are listed in Attachment B.) During the first three months of 1980, the project staff conducted this survey to obtain current regional information unavailable elsewhere. The results of the first phase are presented in a technical report for educational planners(2), a summary of the technical report for persons desiring less detailed information (3), and a career guidebook for students and counselors(4).

As described in the technical report, employers in the 1980 survey were asked to list the three major issues affecting allied health. Over 1000 responses were received, covering a wide range of topics. Many of the issues were interrelated, making it difficult to create distinct classifications for analysis. However, twelve broad categories of issues were developed and briefly discussed. These categories included working conditions, education, regulations, finances, team approach, manpower, credentialing, new trends and developments, professional recognition, advancement opportunities, patient care, and role definitions.

The second phase of the study resulted from preceding issues reported by health care employers -- both facility administrators and department supervisors. Since the primary focus of the project was to provide information useful to educators, a follow-up study of selected issues pertaining to education was designed. Although many of the other concerns were pertinent to education either directly or indirectly, the five selected for follow-up had been specified by employers as education-related. In the judgement of the project staff, these five issues were concerns that could be addressed by educators throughout the state:

1. *Need for improved communication between service and educational institutions;*
2. *Need for improved understanding of roles among allied health personnel, nurses and health practitioners;*
3. *Overspecialization in training leading to career inflexibility;*
4. *Lack of regional training (education) programs;*
5. *Need for more convenient and accessible continuing education programs.*

Design of the Study

The issues study was conducted during the months of March through June, 1981. This study was designed to include commentary from both employers and educators through a series of interviews. Preliminary analyses of the recommendations made by these two groups then allowed for feedback from an interdisciplinary advisory committee before the finaly analyses were completed.

Employer Input

During March of 1981, the original 1980 survey forms were reviewed. All forms containing one or more of the five issues to be studied were pulled for possible follow-up. From these forms 20 survey respondents (employers) were selected for follow-up interviews. Judgmental sampling was used in the selection of employers to be interviewed. An attempt was made to include employers from a variety of occupations and from different employment settings. The major purpose of the follow-up interviews was to clarify and elaborate on the employers' original survey responses. Project staff contacted the employers by telephone and explained the purpose of the interview. Then they read the employers' original issue responses and obtained their agreements to be interviewed. The staff conducted these interviews in ar unstructured manner, except for introductory remarks and a request that interviewees elaborate on their reasons for indicating each respective issue. The interviews were each approximately fifteen minutes in length. Along with the original written responses on the survey questionnaire, these interviews provided the project staff with background information before approaching educators regarding their recommendations.

Educator Interviews

Allied health occupations educators were queried during April of 1981, for recommendations on ways that they as educators could address employers' concerns. Recommendations came from educators in both public and private four-year colleges and universities, two-year colleges, high schools and hospital-based programs.

Due to the limited amount of time available, the staff decided to obtain as many suggestions as possible through organized allied health groups. Unfortunately, the newly-organized state association (the Illinois Association of Allied Health Professions) 1981 meeting did not coincide with the time frame of the study. A large regional association meeting (Health Education Resource Council of Northeastern Illinois) however, provided a forum for input from educators from a variety of types of educational programs. Recommendations from this meeting were supplemented by telephone interviews with selected educators in various areas of the state. Judgmental sampling was used in selection of educators for supplemental interviewing. Selection criteria for consideration included the type of institution in which educators were employed and their involvement in professional activities. Although two methods -- group discussion and telephone interview -- were used to collect recommendations, the staff judged both methods

to be comparable because educators at the group meeting were asked to record their initial recommendations independently before any group discussion took place.

Each of the five issues were discussed by the group following this basic format:

1. The issue was presented to the group by a project staff member. Included in the presentation was a brief discussion of comments from employers obtained during the 1980 survey and the follow-up interviews.
2. Participants were given approximately five minutes to write any initial recommendations on ways educators could address the issue. (The form used in this exercise is included in Attachment C.)
3. Participants were asked to verbalize, on tape, their recommendations in a ten-minute disucssion period.
4. Following discussion, the participants were asked to rank what they considered to be the top three recommendations.

After following this procedure for all five issues, the forms containing initial recommendations and rankings were collected from the group for use in future analyses. Sixteen of the approximately twenty-five educators in attendance returned completed forms.

In conducting the educator telephone interviews, letters of explanation were mailed to the selected educators one week before the calls took place. The letter, which briefly explained the study and listed the issues, is included in Attachment D. Of the 15 educators contacted by letter, 11 interviews were completed. Four educators were not available for interviews during the designated time period. The interview schedule was similar to the format used in obtaining the group recommendations. Interviews ranged from twenty to forty-five minutes in length.

Preliminary Analyses

After obtaining recommendations from a total of 27 educators, a content analysis of interview notes and transcripts was performed. Recommendations from telephone interviews were merged with the initial recommendations from the group meeting. Frequency of occurrence was tabulated for each recommendation and ranking from the group meeting were analyzed.

Advisory Committee Recommendations

An interdisciplinary advisory committee composed of representatives from state educational boards, employer groups, established health occupations advisory

groups and consortia, information agencies, and vocational, technical and counseling education groups provided assistance throughout the two-year project. (Names and affiliations of members are listed in Attachment E.) The committee met in early May of 1981, to review and discuss the recommendations made by educators. Following the discussion of each recommendation, committee members indicated whether the recommendation was feasible, effective, or both.

Analyses

The final analyses included tabulation of the advisory committee recommendations. In addition, project staff reviewed all materials and notes from each of the preceding design steps in preparation for report writing.

Outline of Report

The remainder of the report discusses each of the five issues examined. Each section contains a review of employers' concerns, suggestions from educators on ways they can address the concerns, and finally, the recommendations of the project. These recommendations -- derived during the final analysis period -- are not necessarily the most frequently mentioned recommendations of the educators nor do they necessarily reflect a consensus of opinion of the project advisory committee. These factors, however, weighed heavily in the decision to include them. Since the issues are considered to be individual concerns of employers, the recommendations for each issue are presented separately.

Section 2

NEED FOR IMPROVED COMMUNICATION BETWEEN SERVICE AND EDUCATIONAL INSTITUTIONS

Employers' Concerns

In citing a need for improved communication between service and educational institutions, health care administrators and department supervisors discussed several problems arising from lack of communication. The term "unrealistic training" was used in describing a major result of poor communication. It was pointed out that a graduate's expectations frequently do not coincide with the reality of the work situation. A more realistic clinical experience designed through the joint efforts of the clinical (service) facility staff and the educational institution's faculty was stressed. One director of nursing said, "You hear a lot about communication, but I don't see it happening."

Non-hospital employers indicated that there was very little communication between themselves and educators. Because many allied health and nursing educators have little clinical experience in non-hospital settings, the need for improved communication is crucial in preparing students for different career situations.

Educators' Comments and Recommendations

With the exception of one high school health occupations instructor, the educators participating unanimously agreed that communication between service providers and educators is a paramount concern in allied health. One educator noted that for a long time educational programs were developed with no input from service providers and, although this trend has changed, much still needs to be done to improve the understanding of these two differently-oriented groups. Two other educators believed the need for communication is even more critical now than it has been in the past. With increased pressure on the budgets of both service and educational institutions, more and better communication is necessary in order to supply the needed personnel. A united effort is important in determining and obtaining the most effective and efficient methods for providing and funding didactic and clinical training One of the educators said it may become necessary to remove the clinical experience from the academic program unless improved cooperation and communication are achieved.

Several suggestions for ways to improve communication were made. The most frequently suggested method involved the use of advisory committees or councils composed of health service providers. While many educational programs have such groups, their effectiveness varies. Apparently many of the current advisory committees meet only to fulfill the obligation of meeting. The agenda consists of reporting program activities -- there is no real interchange of ideas. Some of the educators who believed their advisory committees are providing an effective service reported that it is important to have all of the departmental staff members involved with the committee. The suggestion was made that program planning should actually be a cooperative effort of educators and service providers if the committee is functioning as it should.

An educator whose institution uses advisory committees reported difficulty in locating people to serve on the committees. One of the major problems for many service providers is time. Frequently advisory commitee members must serve "on their own time." It was suggested that continuing education credit and/or release time from their employers might be given to people who serve.

Another suggestion involved advisory committees for service institutions. Composed of educators, these committees could advise service institutions on matters related to educational needs and preparation.

The second most frequently mentioned recommendation was the establishment of area allied health organizations similar to the Health Education Resource Council of Northeastern Illinois. The purpose of the organization -- which is a cooperative effort between educational institutions and health care facilities -- is expressly to improve communication between the two groups. It provides an opportunity for regular contact that is otherwise unavailable. Along these same lines, the recommendation that a state allied health association could also provide a mechanism for communication was offered.

The third most frequently mentioned recommendation involved the interchange of service and educational institution personnel. Two major types of interchanges were suggested. One dealt with in-service or continuing education activities on a short-term basis. One educator described it as follows:

> I think that putting service people in the educational institutions and educational people in the service institutions in some way needs to be thought about. Service people ought to take courses, or be part-time faculty, or be brought in for talks and get to know the

system that the people in the educational institutions have to deal with. And it's a totally different system. And vice versa, I think the educational people ought to be invited in for lectures, workshops or whatever, and be on advisory committees in the service institutions so they can understand. Remember, a lot of them will have forgotten what a complex industry the service agency is. So really, continuing education on the part of the faculty is very broad in focus and very necessary. Even if they don't want to become up-to-date practitioners, they need some continuing education in the service areas to know how that service system is changing.

Another type of interchange involved more concentrated exposure. Included under this suggestion was the possibility of educational staff members actually being employed for a summer or semester in a service facility and vice versa. The feeling was that both types of staff, particularly educators, needed this more intensive contact to understand changes that are taking place in the field.

Other suggestions for improving communication between service and educational institutions included continuous needs assessments, more exposure of students to service institutions, more service orientation by educational programs, a major emphasis on the common goal of better health care, sharing of resource materials and, finally, budgeting by both types of institutions for better communication.

Discussion and Conclusions

It is obvious from the recommendations received from both the employers and educators that communication between the two groups is a major concern. In fact, in reviewing the suggestions for all five of the issues examined, improved communication is a key element in addressing the remaining four issues.

Based on information obtained from employers and educators and input from the Health Occupations Education Planning Project Advisory Committee, the following points should be considered as possible effective and feasible recommendations for improving communication:

1. Allied health and nursing programs should be planned and reviewed in cooperation with service institutions. To accomplish this, it is suggested that advisory committees, composed of service institution representatives, be utilized. Where advisory committees have already been functioning, their work should be evaluated and steps taken to enhance their effectiveness. When appropriate, advisory committee

membership should be representative of a variety of service institution types. Some type of incentive, such as continuing education credit, should be available to those willing to serve on the committees. Among other things, the committees should be involved in assisting with ongoing needs assessments and could serve as a mechanism for communication regarding concerns and activities of interest to both groups.

2. Programs that encourage the interchange of personnel should be developed through cooperation between service and educational institutions. Initially, it seems that activities such as lectures, demonstrations and short workshops would provide the most feasible avenues of exchange. A more intensive exposure involving actual employment of faculty in the clinical setting and vice versa, however, should be viewed as a possible effective method of interchange. Both educational institutions and service facilities are encouraged to consider such interchanges in their budget planning.
3. Both state and area allied health associations should be viewed as mechanisms for improving communication. While organizations of this type will no doubt continue to be plagued with "turfdom" problems, they are the only formal mechanisms for bringing all types of educators (secondary through university level), professional associations, state agencies, and service institutions together.

Section 3

NEED FOR IMPROVED UNDERSTANDING OF ROLES AMONG ALLIED HEALTH PERSONNEL, NURSES, AND HEALTH PRACTITIONERS

Employers' Concerns

Administrators and department supervisors in over twenty-five percent of the health care facilities surveyed in 1980 expressed concern about a lack of understanding and cooperation among allied health personnel, nursing staff, and health practitioners (primarily physicians). Training for many allied health occupations can be so focused and specialized that students may have no comprehension of what other occupations are, much less what their responsibilities entail. Some of the respondents indicated problems occur when several people from different occupations may be working with one patient. Because each person does not know what the others are capable of doing, there can be a lack of respect for common knowledge.

Understanding the amount of time it takes other professions to perform certain tasks appears to be a problem for some people. One person said that this misconception is an important factor leading to animosity among health professionals and between health professionals and patients.

Other employers indicated that the problem is more than a lack of knowledge concerning the responsibilities of other professionals. These people believe the problem is a matter of attitudes that have developed as the health care field has expanded. Part of the attitudes are a result of professional "turf" protection. Regardless of why the lack of understanding of roles exists, all were in agreement that it contributes to job dissatisfaction, turnover and less efficient patient care.

Educators' Comments and Recommendations

Educators agreed that there is a need for improved understanding of roles among allied health personnel, nurses and health practitioners. Suggestions that can be defined as mechanisms for acquainting people with other occupational roles included offering an introductory survey course on roles and responsibilities in the health system, interdisciplinary rotation during a student's clinical experience, and an orientation program in the health care facility for new employees. The suggestion to have students rotate during clinical experience occurred most frequently. Respondents largely agreed that students would gain a better understanding of a role by actually observing or participating

in, if appropriate, the work experience than by hearing about it in a lecture.*

Most educators reported that while knowing what different occupations entail is essential to improved understanding, this knowledge is not enough. The concept of a team approach should be taught and practiced if cooperation and understanding is to become a reality. The suggestion was made that faculty receive training in the team concept. One educator also commented that it does no good to teach the team approach to students if it is not practiced when they enter the work situation.

Educators also suggested sharing resources among different disciplines as a way to improve understanding. One educator said that the trend for health occupations students to take basic science courses in the science department rather than within each health occupations program is a step in the right direction. The proposal to teach core courses was made by three educators. One of these suggestions included the recommendation that "the state should form a committee to develop the core courses." By sharing resources and faculty in education, continuing education and in-service education, the educators believed better understanding of roles would develop among different allied health and nursing disciplines.

There was some skepticism regarding improvement in the understanding of roles between physicians and other health personnel, although a few educators thought the sharing of course, faculty, and other resources might change physician attitudes if the concepts were initiated early in training. Others thought that creating a better professional image coupled with assertiveness training would assist health personnel in their working relationships with physicians.

Open meetings to discuss common concerns were proposed along with the suggestion that a state and/or area allied health association could provide the groundwork for such discussions. One person added that such meetings would provide an avenue for people from different disciplines to become acquainted on a less formal basis than the work setting.

Of the five issues examined in the study, the issue on improved understanding of roles produced the most and the liveliest discussion both in group discussions and telephone interviews.

*Note: Project staff have been informed by the Health Occupations Consultants at the State Board of Education that inter-disciplinary rotation does occur in some high school programs.

Discussion and Conclusions

Attempting to address the need for improved understanding of roles among groups of people could be viewed by skeptics as a futile activity undertaken by dreamers only. Although the difficulty of the task should not be underestimated, neither should it be dismissed as an impossibility. Activities at the national level in such areas as certification, accreditation, and continuing education are examples that people from different health occupations can work together cooperatively. State and local efforts to promote a better understanding among allied health, nursing, and other health professionals need encouragement.

Three suggestions provided by Illinois educators appear to be feasible ways to encourage better understanding. These suggestions are presented below in the order in which the project's advisory committee rated the effectiveness and feasibility of each recommendation.

1. Training should include exposure to other health disciplines. This exposure could be in the form of an introductory survey course during didactic training or in the form of rotation through departments during the clinical experience. (As noted on page 12, project staff have learned that mechanisms for this activity exist in some high school programs.) Both settings provide an ideal situation for emphasizing a team approach and the interrelated nature of health occupations. There are some practical problems involved in instituting this suggestion, however, in occupations with one and two year training programs, time is a factor. In addition, with programs receiving vocational education funds, such training might not be considered skills training and therefore could be judged ineligible for funding. Considering that health occupations education deals with numerous separate but interrelated occupations, the knowledge of that interrelatedness should be considered a basic skill.
2. The sharing of educational resources among health disciplines is highly encouraged. Interdisciplinary courses for entry-level, in-service, and continuing education offer the opportunity to share faculty and other resources.
3. The team approach to patient care should be encouraged. There should be faculty development in this area. Students not only should be taught about team care in their didactic training but also should be exposed to it during their clinical experiences.

Section 4

OVERSPECIALIZATION IN TRAINING

Employers' Concerns

Overspecialization leading to career inflexibility was a concern of several original survey respondents. In conducting follow-up interviews with these employers, two approaches emerged. Some comments were primarily from the perspective of the hiring institution while others were concerned with the employee's career. From the perspective of administrators in some institutions, many smaller facilities cannot afford and do not need the services of several full-time, highly specialized individuals. These institutions have a need for individuals with training backgrounds broad enough to provide quality multiple services. Likewise, even in larger facilities, broader training may be preferred. One person from a large metropolitan facility indicated a preference for hiring "generalists" in the rehabilitation department because they make better employees and they are found to be more mature and generally happier in their work than people who have come through more narrow, specialized training programs that concentrated on teaching tasks.

The employers whose comments were employee-oriented discussed the problems of individuals whose training is so specialized that career flexibility becomes difficult. When technological changes create obsolescence in an occupation or when the job market becomes saturated, extensive retraining may be necessary unless previous occupational training has provided a broad base.

On the other hand, the people voicing concerns with overspecialization were aware of the many factors involved in making this a complex issue. For example, in any discussion of multi-competency (specializing in more than one occupation), as certification and registration, quality of service, salaries, and professional recognition are among those factors that must be considered.

Educators' Comments and Recommendations

Educator reaction to this issue was varied. Six of the twenty-seven educators interviewed did not believe overspecialization was a problem. They indicated that our technological society requires specialization. As one educator put it, "If I were in the hospital, I would want the person who was working on me to be as specialized as possible." Four others thought that

although overspecialization was a problem, educators could not address the concern. They believe employers and professional associations are responsible for the condition and should be addressing it. There appeared to be a general concensus that the problem is more pervasive at the technician level than the baccalaureate level. A few educators, however, indicated that the real problem of overspecialization is not at the technician level but in occupations (many at the baccalaureate level) that are developing subspecialties that require an extended period of education. Some of the reasons suggested for this push for lengthening training included increased salaries for specialists, boredom with routine work, and more status. They questioned whether this extended training is really necessary.

Recommendations for addressing problems associated with overspecialization ranged from placing more emphasis on preparing people to perform multiple roles to providing better career counseling. Multi-competency training was the single most frequently-occurring suggestion. Problems with program accreditation and professional credentialing, however, must be addressed before multi-competency can become accepted widely.

A number of suggestions were concerned with providing a broader educational base for health occupations. One educator described it as follows: "We need to be educating as well as training." Three educators said that training should begin with a broad foundation in the humanities and basic sciences before the student goes into specialty courses. Two others suggested having core courses for students in allied health programs. Following the core health courses, students could take specialty training for their particular chosen occupations. One person making the latter recommendation explained that the concept is not a new one.* Over the last ten years many professional associations have persisted in opposing the core concept. They have been successful in their opposition because of their involvement in the accrediting process. The time may be right, however, to reconsider seriously the basic organization of the allied health educational system.

It was suggested that the definition of occupational roles is basic in considering the specialization/overspecialization issue. Whether one is considering initiating core courses, doing needs assessments, or examining the appropriate length of training, a clear concept of the competencies involved in an

*Note: Project staff have learned that the core curriculum approach is common in Illinois high school health occupations programs.

occupation is necessary. Professionals and educators must work together in defining the roles and determining the differences and commonalities of various occupations.

Finally, there was lengthy discussion at the educators' group meeting regarding the need for better career counseling. In fact, in the group's final rating of recommendations, the suggestion on counseling was ranked to be the top recommendation. Students who receive no counseling may complete program requirements, but finish their training deficient in self-development. One educator said that many students go into nursing or an allied health occupation only to find that it is really not for them after they graduate. It was postulated that counselors and schools are not taking advantage of the resources that help match personality with careers. If specialization is necessary, with proper counseling the students could find specialty areas that will provide more rewarding careers.

Discussion and Conclusions

No agreement was reached in this study as to whether people are too specialized or not specialized enough. Considering this finding, the consistency of the suggestions resulting from discussion of this issue is surprising. The following suggestions are offered not necessarily as ways to address over specialization but rather as a means of identifying some general needs in allied health education.

1. Professionals and educators need to work together to define better the roles of various health occupations.
2. Core courses should be developed. While it is not feasible or desirable for all programs to share common courses, there are enough occupations with common elements to make the development of a core curriculum possible. Thus, students making career decision changes would have some options available without having to start completely over. Likewise, people making career changes once having chosen a particular field could do so with a minimum of retraining.
3. There is a need for better career counseling. An effort should be made to inform counselors of the many options available in the health field and students should be encouraged to compare the

characteristics needed for the careers with their own goals and personalities.

4. Multi-competency training may provide a solution to the manpower needs in underserved areas. There are, however, problems that must be addressed in the use of such training. Pilot programs should be thoroughly evaluated before proceeding with this approach.

Section 5

LACK OF REGIONAL TRAINING PROGRAMS

Employers' Concerns

Employers from different areas of the state expressed concern over a lack of certain types of training programs in their area of the state. Some people indicated that even if programs exist, limited enrollments make entry difficult. One employer said his facility continues to use on-the-job training for many of its technician and assistant level positions although formally trained individuals are preferred. Many of these employees would like to obtain formal training in order to become certified. For these people to leave the area for training is often impossible and commuting creates real hardships.

In the follow-up interviews, it was determined that several of the employers who had written "lack of regional continuing education" on the survey were really referring to the lack of regional training programs for advanced education. For example, the need for baccalaureate completion programs for nurses was of concern for one person. Another talked about the lack of local programs in specialty areas such as nuclear medicine and sonography for persons already trained in radiation technology.

Educators' Comments and Recommendations

As with the issue of overspecialization, a difference of opinion existed among the educators interviewed as to whether there was a need for regional training programs and whether individual educators could do anything about it. Comments included such remarks as:

"Many times it's due to the lack of clinical sites in an area."

"The problem cannot be addressed under the present system."

"The problem is due to state agency policy and philosophy."

"It's a matter of finances; even if there is a problem with lack of progress, expanding programs are not viable. It may be necessary to consolidate rather than expand."

The major recommendation for addressing the issue or regional programs involves planning at the state level based upon thorough and uniform manpower studies. The use of satellite and cooperative programs should be explored. Univorm admission requirements as well as agreement on program standards need to be established. In discussing the need for more uniform admission standards,

one educator indicated that the various admission criteria do not necessarily "identify the kinds of competencies or capabilities a person should have to be a good person in that field. This needs to be examined by a very competent group."

It was suggested that a unified voice is needed to influence the legislature -- across health disciplines, educational institutions, health care facilities, and state agencies. This strategy would provide a much stronger base of support of allied health needs than the present fragmentary approach.

Other suggestions for dealing with regional program needs included establishing a system of priority funding based on regional needs, the use of a charge-back system, and vocational hearings.

Discussion and Conclusions

In this period of fiscal restraints, any suggestions for new or expanded educational programs must be very carefully considered. In allied health and nursing, however, it appears from the project's earlier investigation that manpower needs in Illinois are still a very real concern of employers. Thus, the project staff offer the following suggestions:

1. Program planning and approval at the state level should be based upon the systematic collection and analysis of manpower data. The present method wherein each institution supplies supporting data for its program needs does not provide adequate data for statewide planning.
2. Consideration should be given to the use of satellite programs with mechanisms developed for assessment of their continued need and for satisfactory withdrawal when the need has been met.

Section 6

CONTINUING EDUCATION

Employers' Concerns

Forty percent of the 1980 survey respondents expressing concerns regarding education stressed the need for continuing education. Keeping pace with technological advances and changes is an ever-present need in the health professions. While more attention has been focused on this need in recent years, people living outside metropolitan areas, as well as those employed in non-acute care settings, expressed concerns that their needs are not being met. The most frequently mentioned concern was the lack of continuing education programs at times and locations convenient for the working health professional. One hospital administrator said, "In departments that have only one or two employees, the services of the department must come to a halt when the employees go out of town to a two-day continuing education course." Another person who indicated a year ago that her institution had had the same problem, said later that a community college in the area has recently started offering programs and that this development has relieved the problem.

Educators' Comments and Recommendations

In providing suggestions for ways in which educators could address employers' concerns regarding continuing education, three major recommendations evolved. The first was the recommendation that there be a cooperative effort among educational institutions, professional associations, and employers to develop continuing education recognition systems. Included in this recommendation was the need for professional associations and employers to recognize formally continuing education offered by educational institutions. In turn, a system for awarding academic credit should be established. A multi-disciplinary approach was mentioned as an economical method of presentation. Needs assessments to determine topics, locations, and times could be conducted with advisory committees being utilized as a communication mechanism for continuing education. One educator pointed out that assessments are important at the local level; what is needed in a metropolitan area is not necessarily what is needed elsewhere.

The second major recommendation involved using alternative continuing education delivery systems. A number of educators stressed that educational institutions should be delivering programs where they are needed. It was mentioned that faculty are often asked to teach continuing education courses in addition to their regular workload and that a system of release time or remuneration should be provided.

Some institutions have established continuing education departments that handle all the management details. The different programs then develop the curriculum and provide the instructional services. This system appears to be more economical than having each department or program individually responsible for administering continuing education.

Other alternate methods of offering continuing education included presentation through audio-visual materials and computer assisted instruction. These methods were suggested as especially viable in sparsely populated areas where traditional workshops and courses are difficult to provide.

The third major recommendation was that continuing education should be mandated and financed by the state. However, most educators thought that, while support for programs should be available and offering encouragement, mandating involvement is too strong an approach.

Discussion and Conclusions

Recognizing that professional associations have taken a leading role in providing continuing education and that efforts are being made on a national level to address continuing education concerns, the project staff suggest that state and local educators keep abreast of these developments and take advantage of the cooperative work being done. Efforts on the local level should consider the suggestions from Illinois educators discussed in the previous section. Based on preceding suggestions, the staff recommends that educational institutions determine, in cooperation with local service institutions, the actual continuing education needs and base programs upon these needs.

Section 7

FINAL REMARKS TO THE ILLINOIS STATE BOARD OF EDUCATION

No attempt has been made to priorities for issues or recommendations because the purpose of the study was to make recommendations based on educators' suggestions. In providing their suggestions, educators were not asked to rank the issues. The project staff, therefore, do not presume to impose this priority on their responses.

The reader is sure to have noticed the commonalities in the recommendations offered on the various issues. For example, the development of cooperative programs with a sharing of resources was suggested for promoting greater understanding of roles, dealing with the lack of regional programs, and addressing the continuing education needs. The commonalities in the recommendations illustrate a reality of doing research in health occupations education and emphasize the need for a comprehensive approach to solving these problems rather than an approach based upon one issue in isolation from the others. The project staff recommend that activities proposed in pursuit of the achievement of the recommendations in the present report be seriously considered as projects for future funding by the Illinois State Board of Education.

REFERENCES

1. Five-Year and Annual State Plan for Vocational Education in Illinois, FY 1978 - FY-1982 (p. 85). State Board of Education, Springfield, IL. 1977.
2. Health Occupations in Illinois: A Technical Report. Illinois State Board of Education, Springfield, IL. 1980.
3. Health Occupations in Illinois: Executive Summary. Illinois State Board of Education, Springfield, IL. 1980.
4. A Guide to Health Occupations in Illinois. Illinois State Board of Education, Springfield, IL. 1981.

ATTACHMENT A

SELECTED HEALTH OCCUPATIONS

USED IN STUDY

Sources for Titles and Job Descriptions

* Aide level positions are from Suggested Guidelines for the Planning of Sequential Programs at the Secondary Level in Health Occupations, State Board of Education, Illinois Office of Education.

** New occupations are from Current and Future Employment Opportunities in New and Emerging Occupations Within Illinois, State Board of Education, Illinois Office of Education, August, 1978.

All other titles and job descriptions are from Glossary of Allied Health Occupational Titles, 1979 Inventory of Allied Health Education Programs in Two-Year and Four-Year Colleges and Universities, American Society of Allied Health Professions.

SELECTED HEALTH OCCUPATIONS USED IN STUDY

ASAHP CODES — TITLES AND JOB DESCRIPTIONS

CLINICAL LABORATORY SERVICES

0505 Blood Bank Technologist: Medical technologist, working under the direction of a pathologist, physician, or laboratory director prepared to collect, classify, store, and process blood including separation of components from whole blood, detection and identification of antibodies in patient and donor bloods, and selection and delivery of suitable blood for transfusion.

0510 Chemistry Technologist: Medical technologist, working under the supervision of a pathologist, physician, or qualified scientist in performing qualitative and quantitative chemical analyses of body fluids and exudates, utilizing quantitative equipment and a wide range of laboratory instruments, to provide information for diagnosing and treating disease.

0515 Cytotechnologist: Works under the supervision of a pathologist, physician or medical technologist, in handling, staining, mounting, and screening human tissues for abnormalities. Evaluates human cells to determine cellular variations and abnormalities such as cancer and other physiologic changes.

0520 Hematology Technologist: Medical technologist, working in a hospital setting under supervision of a hematologist or laboratory director, in performing quantitative, qualitative, and coagulation tests on cellular and plasma components of blood for use in the diagnosis and treatment of disease.

0525 Histologic Technician: Works under supervision of a pathologist or other qualified physician in sectioning, staining, and mounting human or animal tissues and fluid for microscopic study. Requires one year of training. Job skills are primarily technical; tissue evaluation and screening are not involved at this level.

0530 Laboratory Assistant: Works under the direct supervision of a medical technologist, pathologist, physician, or qualified scientist, in performing routine laboratory procedures requiring basic technical skills and minimal independent judgement, in chemistry, hematology, and microbiology. (Certified Laboratory Assistant)

0540 Medical Laboratory Technician: Works under the supervision of a medical technologist, pathologist, or physician, in performing routine or specialized bacteriological, biological, and chemical tests, requiring limited independent judgment or correlation competency, to provide data for use in the diagnosis and evaluation of effective treatment of disease.

CLINICAL LABORATORY SERVICES
(continued)

0545 Medical Technologist: Trained at the baccalaureate or master's degree level, the medical technologist is a highly skilled laboratory scientist with a strong generalist orientation and an ability to perform complex and specialized procedures in all major areas of the clinical laboratory. The medical technologist is responsible for complex analysis requiring the exercise of individual judgment and must be able to relate findings to the presence or absence of disease. May supervise and/or teach laboratory personnel.

0550 Microbiology Technologist: Works with a minimum of supervision by a pathologist, physician, or laboratory director, in performing bacteriological, viral, parasitological, immunologic, and serologic procedures in a clinical laboratory setting. Generally not a medical technologist by degree; education in microbiology required.

DENTAL SERVICES

0720 Dental Assistant: Assists dentist at the chairside in dental operatory, performs reception and clerical functions, and carries out dental radiography and selected dental laboratory work. Certain assistants may perform other duties as prescribed by the state dental practice act.

0725 Dental Hygienist: Professional oral health clinician and educator who helps public develop and maintain optimum oral health. As a member of the dental health team, the dental hygienist performs preventive, restorative, and therapeutic services under the supervision of a dentist. Dental hygienists are the only licensed dental auxiliary professionals and specific responsibilities vary, depending on the state dental practice act.

0730 Dental Laboratory Technologist/Technician: Prepared to construct complete and partial dentures, make orthodontic appliances, fix bridgework, crowns, and other dental restorations and appliances, as authorized by dentist.

DIETETIC AND NUTRITIONAL SERVICES

1010 Dietetic Technician: Working under the guidance of a registered dietitian and having completed at least two years of training, the dietetic technician has responsibilities in assigned areas of food service management. Responsibilities include planning, implementing, and evaluating food service programs, teaching nutritional principles, and participation in dietary counseling.

DIETETIC AND NUTRITIONAL SERVICES
(continued)

1015 Dietitian: Applies the principles of nutrition and management in administering institutional food service programs, plans special diets at physician's requests, and instructs individuals and groups in the application of nutrition principles to the selection of food.

1025 Dietetic Assistant: Writes food menus following dietetic specifications, coordinates food service to patients, orders supplies, maintains sanitation, and oversees the work of food service employees in health care facilities.

1030 Nutritionist: Adapts and applies food and nutrient information to the solution of food problems, the control of disease, and promotion of health. Performs nutrition research, instructs groups and individuals about nutritional requirements, and helps people develop meal patterns to meet their nutritional needs.

* Dietary Aide (Food Service Worker): Performs assistant tasks under the supervision of a qualified dietitian or dietetic technician in hospitals and related health care institutions. Prepares and delivers food trays to patients, collects empty trays, records intake, cleans work area.

EMERGENCY SERVICES

1305 Emergency Medical Technician-Ambulance: Responds to medical emergency calls, provides first aid, and transports the injured to medical facilities. Qualified to administer only basic life support services, such as artificial resuscitation.

1315 Emergency Medical Technician-Paramedic: Having completed a more advanced level of training than the Emergency Medical Technician-Ambulance, the paramedic responds to medical emergencies, evaluates the nature of the emergency, and carries out specified diagnostic and treatment procedures under standing orders or in communications with professional medical personnel. Paramedics may provide advanced life support services such as intravenous drug administration and cardiac arrhythmia control.

HEALTH ADMINISTRATION AND SUPPORT SERVICES

0110 Health Services Administrator: Health Services Administrators occupy middle and top-level management positions in a variety of settings: hospitals, public and private health agencies, social service agencies, and government health agencies. Minimum education at the baccalaureate level is required for job entry. The functions of the positions are broadly based and include planning, organizing, staffing, budgeting, directing, and coordinating.

0240 Medical/Dental Secretary: Assists physicians and/or dentists through the use of medical shorthand, typing, filing, accounting, appointment scheduling, receptionist duties, and office management.

0245 Medical Office Assistant: Assumes support functions in a physician's office, including routine administrative, clerical and record-keeping procedures. Assists the physician in medical examinations and treatments, and cares for medical equipment and supplies.

0255 Unit Clerk: Serves in a support capacity in a floor nursing unit. Handles routine clerical and reception work: receiving patients and visitors, scheduling appointments, monitoring the location of all ward staff, and where hospital policy permits, transcribing doctor's orders, ordering supplies, and up-dating information on patients' charts. (Ward Clerk)

0256 Unit Manager: Supervises and coordinates administrative management functions for one or more patient care units: oversees unit clerks, initiates clerical procedures and serves as a liaison for the unit with other hospital departments. (Ward Service Manager, Ward Supervisor)

INFORMATION AND COMMUNICATION SERVICES

** Biological/Medical Photographer: Utilizes the photographic media to present medical or scientific information. They perform basic photography duties such as taking photographs, making slides and movies, processing and printing film relative to medical settings.

2510 Medical Communications Specialist: Knows the properties and capabilities of communications media and applies this knowledge to the design and improvement of communication processes in the health field.

2515 Medical Computer Specialist: Combines a knowledge of computer science and health science to provide systems and programming support in the medical field.

INFORMATION AND COMMUNICATION SERVICES
(Continued)

2520 Medical Illustrator: Demonstrates medical facts by the creation of illustrations, models and teaching films; serves as a consultant, advisor, and administrator in the field of medical illustration.

3705 Medical Record Administrator: Plans, designs, develops and manages systems of patient information, administrative and clinical statistical data, and patient medical records, in all types of health care institutions.

3710 Medical Record Technician/Aide: Serves as the skilled assistant to the medical record administrator, carrying out the technical work of coding, analyzing, and preserving patients' disease indices, and statistics in health care institutions.

3715 Medical Transcriptionist: Skilled in typing, medical spelling, medical terminology, and the proper format of medical records and reports; prepared to transcribe medical dictation using mechanical dictating equipment.

** Tumor Registrar: Performs a broad range of duties in the accession and follow-up of cancer cases, such as, case finding, record abstracting, case follow-up, data processing, analysis and reporting and administrative duties of the registry.

0410 Health Statistician: Uses statistical theory, techniques, and methods to determine useful measurements or meaningful relationships of information relating to health or disease.

MEDICAL INSTRUMENTATION AND MACHINE OPERATION

0310 Biomedical Engineering Technologist/Technician: Assembles, repairs, and adapts medical equipment to assist biomedical engineers, physicians, and scientists in the development and maintenance of medical equipment and systems for the delivery of medical and health care. (Biomedical Equipment Technologist/Technician)

3405 Cardiopulmonary Technician: Performs a wide range of tests related to the functions and therapeutic care of the heart-lung system, operates and maintains a heart-lung machine for extra-corporeal circulation, assists in cardiac catherterization and cardiac resuscitation, and assists in the post-operative monitoring, care, and treatment of heart-lung patients.

3415 Dialysis Technician: Operates and maintains an artificial kidney machine following approved methods and techniques to provide dialysis treatment for patients with kidney disorders or failures.

3420 Electrocardiographic Technician: Operates and maintains electrocardiograph machines, records electromotive variation in heart muscle action, and provides data for diagnosis and treatment of heart ailments by physicians.

3430 Electroencephalographic Technologist/Technician: Operates and maintains electroencephalographic machines, recording brain waves on a graph to be used by physicians in the diagnosis of brain disorders.

6705 Medical Radiation Dosimetrist: Calculates radiation dosage in the treatment of malignant disease and plans the direction of radiation to its target in the safest way.

6710 Radiation Therapy Technologist: Administers x-rays and electron beam equipment in order to treat disease in patients and assists in preparing and handling radioactive materials for therapy purposes.

6715 Radiographer: Maintains and safely uses equipment and supplies necessary to demonstrate portions of the human body on x-ray film or fluoroscopic screen for diagnostic purposes. May supervise and/or teach radiologic personnel. (Radiologic Technologist)

* Radiologic Aide: Assists the radiographer by transporting patients from the emergency room or nursing unit to the x-ray department, positioning the patient for treatment, assisting the patient to dress, and putting the patient at ease in unfamiliar surroundings.

6720 Diagnostic Medical Sonographer: Uses acoustic energy for diagnosis, research, and therapy, operates ultrasound equipment to obtain diagnostic results, evaluates results for quality of technique, and in emergency situations, makes interim reports to medical staff.

6725 Nuclear Medicine Technologist: Performs a wide variety of diagnostic tests in human beings and/or on body fluids utilizing radioactivity in the course of treatment. Makes independent judgements under the general guidance of a nuclear medicine physician. (Nuclear Medicine Technician)

8040 Respiratory Therapist: Having completed at least two years of training, administers respiratory care under the direction of a physician, evaluating the patient's progress, and making recommendations for respiratory therapy. Proficiencies include ventilatory therapy, cardio-respiratory rehabilitation, micro-environmental control, and diagnostic testing of the respiratory system. (Inhalation Therapist)

8045 Respiratory Therapy Technician/Aide: Routinely treats patients requiring non-critical respiratory care, and recognizes and responds to a limited number of specified patient respiratory emergencies under supervision.

** Multi-Competency Technician: Functions in two of three technical specialty areas after training in medical laboratory, respiratory therapy, and x-ray.

4002 Human Services/Mental Health Technician: Requires minimum education at the associate degree level. Employs skills as a generalist, based upon knowledge of human behavior and social and emotional problems in settings providing mental health and social rehabilitation services. Employs a holistic, non-custodial approach to the individual, treating the symptomatic and causative elements that affect the individual's ability to respond to his environment. (Human Services/Mental Health Associate or Technician)

4015 Mental Retardation Aide: Works under the supervision of a professional staff in attending to the physical needs and well-being of mentally retarded patients and in assisting with teaching and recreation processes.

4020 Psychiatric Technician: Works under the supervision of professional and/or technical personnel in caring for mentally ill patients in a psychiatric medical care facility; assists in carrying out the prescribed treatment plan for the patient; maintains consistent attitudes in communicating with the patient in keeping with the treatment plan, and carries out assigned individual and group activities with patients. (Psychiatric Aide)

8505 Alcohol/Drug Abuse Specialist: Advises and assists people in their efforts to overcome personal, family, and social problems that are manifested in alcoholism and drug addiction.

8515 Community Health Worker: Assists people in the community with medical, social, or mental health problems, in finding and utilizing sources of available help.

8525 Genetic Counselor: Counsels clients as to the origin, transmission and development of hereditary characteristics and their relations to birth abnormalities.

8530 Homemaker/Home Health Aide: Assists with meals, shopping, household chores, bathing, and the other daily living needs, both physical and emotional of elderly, ill, or disabled persons, working under professional supervision required by the situation.

8535 Medical Social Worker: Provides link between organized social services and those who need the services to solve medical problems. Prepared to identify and understand the social and emotional factors underlying patients' illness and to communicate these factors to the health team; to assist patients and their families in understanding and accepting the treatment necessary to maximum medical benefits and their adjustment to permanent and temporary effects of illness; to utilize resources, such as family and community agencies, in assisting patients to recover.

8542 Rehabilitation Counselor: Helps disabled individuals become aware of and secure rehabilitation services designed to fit the disabled person for gainful employment, assists in job placement and checks on job satisfaction after employment.

8546 Child Care Worker: Under supervision, implements activity and training programs which provide a preventive and therapeutic environment for mentally ill and emotionally disturbed children and adolescents. Trains children in self-help skills through intensive group sessions involving structured daily activities and reinforcement of other therapeutic experiences; records, evaluates, and reports progress of patients.

NURSING AND RELATED SERVICES

Registered Nurse: A person who is registered under the Illinois Nursing Act and practices professional nursing as defined by this act.

Licensed Practical Nurse: A person who practices practical nursing as defined by the Illinois Nursing Act.

4342 Nurse Aide/Orderly: Performs tasks delegated or assigned by the professional nursing staff, including assisting in providing direct patient care of a routine nature, making beds, delivering messages, counting linens, and escorting patients to other departments in the hospital. May also include, where hospital policy permits, the taking of vital signs, and in the case of orderlies, includes performing heavier work in the nursing unit and maintaining equipment and may include setting up of traction and performing male catheterization. (Nurse Assistant, Nurse Aide, Orderly, Hospital Attendant, Nurse Attendant)

4360 Obstetrical Technician: Assists in the care of mothers in labor and delivery rooms before, during and after delivery under supervision of professional personnel, including hygienic procedures, routine laboratory work, and sterilization of equipment and supplies.

4365 Surgical Technician: Works as general technical assistant on the surgical team by arranging supplies and instruments in the operating room, maintaining antiseptic conditions, preparing patients for surgery and assisting the surgeon during the operation. (Operating Room Technician)

4371 Geriatric Care Worker: Administers to the needs of aged patients, bringing to the task an understanding of the problems of institutionalization, economic needs, the attitudes toward the elderly as these concepts relate to this specific population.

* Pediatric Aide: Under the supervision of a qualified nursing staff, performs tasks involved in the nursing care of ill and/or handicapped children (newborn, infant, child and adolescent) in hospitals and other health care facilities. Performs basic nurse aide skills for pediatric patients.

PHARMACY SERVICES

4920 Pharmacy Assistant/Aide: Works under the supervision of a pharmacist in selected activities including medication profile reviews for drug incompatibilities, prescription packaging, handling of purchase records and inventory control. Where state law permits, may administer drugs to patients under the supervision of a registered pharmacist. (Pharmacy Technician, Medication Pharmacy Technician)

PARA-OPTOMETRIC SERVICES

4620 Ophthalmic Medical Assistant: Assists the ophthamologist in eye examinations and in the treatment of eye diseases and disorders.

4625 Ophthalmic Dispenser: Adapts and fits corrective eyewear as prescribed by the ophthalmologist or optometrist.

4630 Ophthalmic Laboratory Technician: Operates machines to grind lenses and fabricate eyewear to prescription.

4635 Optometric Assistant/Technician: Assists an optometrist in diversified ways, including general office duties, vision testing patients, administering eye exercises, preparing and fitting corrective lenses, and styling eyewear.

4640 Orthoptist: Works under supervision of an ophthalmologist in testing for eye muscle imbalances and teaching the patient exercises to correct eye coordination defects.

** Laser/Electro Optics Technician: Operates, inspects and maintains laser systems and other electro-optic devices, and uses these components to perform tests and measurements.

PHYSICIAN EXTENDER/MEDICINE-RELATED SERVICES

5805 Physician Assistant-Primary Care: Performs physician-delegated functions in the areas of general practice, including family medicine, internal medicine, obstetrics, and emergency medicine.

5810 Physician Assistant-Specialty: Performs functions delegated by a clinical specialist in specific areas of patient care; urology, surgery, pathology, orthopaedics, pediatrics, etc.

7010 Occupational Therapist: Minimum education required at the baccalaureate level. Evaluates the self care, work, and play/leisure time task performance skills of well and disabled clients of all age ranges; plans and implements programs, social and interpersonal activities designed to restore, develop and/or maintain the client's ability to accomplish satisfactorily those daily living tasks required of his specific age and necessary to his particular occupational role adjustment.

7015 Occupational Therapy Assistant: Works under the supervision of an occupational therapist in evaluating clients, planning and implementing programs designed to restore or develop a client's self care, work, and play/leisure time task performance skills. Although the assistant requires supervision in conducting a remedial program, he can function independently when conducting a maintenance program.

7330 Physical Therapist: Minimum education required at the baccalaureate level. Uses physical agents, biomechanical and assistive devices in relieving pain, restoring maximum function, and preventing disability following disease, injury or loss of bodily part.

7335 Physical Therapy Assistant: Assists the physical therapist by assembling equipment, carrying out specified treatment programs, and helping with complex treatment procedures. Other duties include responsibility for the personal care of patients, safety precautions, routine clerical and maintenance work.

* Physical Therapy Aide: Performs basic physical therapy services for the patient, under the supervision of the physical therapist or assistant.

* Rehabilitation Aide: Performs basic skills in the areas of nursing, occupational therapy and physical therapy under the supervision of a licensed practical nurse, registered nurse, occupational therapist, and/or physical therapist.

7605 Art Therapist: Applies the principles and techniques of art to the rehabilitation of physically and mentally ill patients.

7610 Dance Therapist: Applies the principles and techniques of dance to the rehabilitation of physically and mentally ill patients.

7615 Manual Arts Therapist: Uses industrial arts, workshops, and agricultural activities to assist in the rehabilitation of patients.

7620 Music Therapist: Uses individual and group musical activities with physically and mentally ill patients to accomplish therapeutic aims, to create an environment conducive to treatment, or to influence behavior.

7625 Recreational Therapist: Plans, organizes, and directs medically approved recreation programs such as sports, trips, dramatics, arts and crafts, either to help clients in recovery from illness or in coping with temporary or permanent disability.

7630 Recreational Therapy Technician/Aide: Assists the recreational therapist in conducting medically approved recreation programs such as sports, trips, dramatics, arts and crafts.

7635 Corrective Therapist/Adapted Physical Education Director: Provides medically prescribed programs of therapeutic exercise to physically and mentally ill patients to prevent muscular deconditioning resulting from inactivity and to attain resocialization and specific psychiatric objectives.

7640 Exercise Physiologist: Works with clinicians in hospitals with rehabilitation programs to provide exercise stress testing and cardiovascular rehabilitation for patients.

7645 Orthotist/Prothetist: Writes specifications for, makes, fits, and repairs braces and appliances and/or artificial limbs following the prescription of physicians.

7650 Orthotic/Prosthetic Assistant: Assists the orthotist/prothetist in caring for patients by making casts, measurements, and model specifications and fitting supportive appliances and/or artificial limbs.

8810 Speech/Hearing Therapy Aide: Assists in testing, evaluating, and treating the problems of people with speech and hearing difficulties.

VETERINARY SERVICES

9120 Animal Technician: Assists the veterinarian, biological researcher or other scientist in the care and management of animals. Knowledgeable in basic prinicples of normal and abnormal life processes, and in routine laboratory and animal health care procedures.

9130 Laboratory Animal Technician: Possesses knowledge and skills similar to the animal technician, but training has been exclusively oriented to laboratory animals.

ATTACHMENT B

EMPLOYMENT SETTINGS SURVEYED

EMPLOYMENT SETTINGS SURVEYED

Ambulance Services

Blood Banks

Dental Laboratories

Dental Offices

Home Health Agencies

Hospitals

Long Term Care Facilities

Medical Clinics

Medical Laboratories

Mental Health Centers

Pharmaceutical Companies

Rehabilitation Centers

Research Centers

ATTACHMENT C

INSTRUMENT USED IN COLLECTING

EDUCATOR INPUT

The following issues were identified by employers (administrators and department supervisors) as major issues affecting allied health. Under INITIAL RECOMMENDATIONS, please specify the most effective way(s) for educators in Illinois to address each issue. Following a group discussion period, under FINAL RECOMMENDATIONS you will be asked to indicate the three leading suggestions emerging from the discussion.

Please complete:

Name _____

Position _____

Institution _____

Phone _____

ISSUE	INITIAL RECOMMENDATIONS	FINAL RECOMMENDATIONS (RANK ORDER)
Need for improved communication between service and educational institutions		
Need for improved understanding among allied health personnel, nurses, and health practitioners		

ISSUE	INITIAL RECOMMENDATIONS	FINAL RECOMMENDATIONS (RANK ORDER)
Overspecialization in training leading to career inflexibility		
Lack of regional training programs		
Need for more convenient and accessible continuing education courses		

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ATTACHMENT D

LETTER TO EDUCATORS

Southern Illinois University
School of Medicine
P.O. Box 3926
Springfield, Illinois 62708
Health Occupations Education
Planning Project

April 3, 1981

Jane Doe
Health Occupations Instructor
Anytown High School
Anytown, Illinois

Dear Ms. Doe:

In a recent survey of allied health and nursing employers conducted by Southern Illinois University School of Medicine, several concerns were identified as major issues affecting allied health. The Health Occupations Education Planning Project is doing a brief follow-up of some of the issues pertaining to education. We are asking for your assistance in developing practical recommendations for addressing these issues in Illinois. The suggestions will be included in a report to the Illinois State Board of Education, Department of Adult, Vocational and Technical Education, who is funding the study.

We are enclosing a list of issues and will be calling your office later this week to see if you are willing to share your ideas. If our call is at an inconvenient time for you, we will be happy to schedule an interview at your convenience. If responding in writing is more suitable, feel free to do so. If you have any questions, please do not hesitate to call me at (217)782-4418.

Sincerely,

Virginia McMillan

Virginia McMillan
Health Occupations
Information Specialist

VKM:ms

Enclosure

ATTACHMENT E

HEALTH OCCUPATIONS EDUCATION PLANNING

ADVISORY COMMITTEE

Health Occupations Education Planning

Advisory Committee

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